



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Makoto FUNABASHI

Attorney Docket No. 1982-0153P

Appln. No.: 09/612,543

Confirmation No.: 9387

Group Art Unit: 1762

Filed: July 7, 2000

Examiner: Michael B. CLEVELAND

For: METHOD FOR MANUFACTURING RADIATION IMAGE
CONVERSION PANEL

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

I, Masaharu NAKATSU, hereby declare and state:

THAT I am a citizen of Japan;

THAT I graduated from Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology in March, 1991, and my major was Material Science;

THAT I joined Fuji Photo Film Co., Ltd., in April, 1991, and since then until June, 2000 I have been working at Ashigara Research Laboratory of the company and have been engaged in research for photographic photosensitive materials, and since June, 2000 until present I have been working at Miyanodai Technology Development Center of the company and have been engaged in research for phosphor;

THAT I am familiar with the prosecution of the above-identified application; and

THAT the experimentation set forth below was conducted by me or

under my direct supervision.

EXPERIMENT

Purpose of Experiment

To investigate whether or not the property of stimuable emission of a stimuable phosphor is lost as a result of physical external force.

Method of Experiment

10 grams of stimuable phosphor $\text{BaFBr}_{0.85}\text{I}_{0.15}:\text{Eu}$ (Trade Name MAS-30 produced by NICHIA CORPORATION; Particle Size 7 μm) and 100 grams of Alumina beads (Particle Size 5mm) were mixed for four hours by using a mixer (Turbula® Shaker-Mixer T2C manufactured by Willy A. Bachofen AG).

Method of Evaluation

The strength of stimuable emission light of a stimuable phosphor before and after the mixing was measured by the following method.

50 mg of stimuable phosphor powder before mixing was homogeneously filled into a black cylindrical holder (Diameter of crevice mouth: 10 mm, Depth: 250 μm). 50 mg of stimuable phosphor powder after mixing was homogeneously filled into another black cylindrical holder (Diameter of crevice mouth: 10 mm, Depth: 250 μm). Then powder in each holder crevice was irradiated for 10 seconds in a darkroom with an X-ray having a tube current of 40 kV-30 mA. 15 seconds immediately after the X-ray irradiation, the powder in each holder crevice was irradiated with homogeneous broadening by means of a laser light having a wave length of 660 nm. Stimuable emission light (Peak wave length: about 400 nm) emitted from the powder surface after irradiation with laser light was received with a photomultiplier (R-1848, manufactured by Hamamatsu Photonics Co., Ltd.), and the strength of stimuable emission light was measured.

Three pairs of samples were prepared and measured. The

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results of the experiments are listed in the following table.

Relative strength of stimuable emission light

	Sample 1	Sample 2	Sample 3	Average
Before mixing	82.29	84.74	85.51	84.18
After mixing	4.98	5.05	4.34	4.79

The strength of stimuable emission light after the mixing is 5.7% ($= 4.79/84.18$) of the strength before mixing.

Thus, I conclude from the above that a stimuable phosphor loses its stimuable property when physical external force is applied.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: April 12, 2004

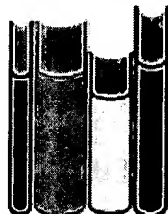
Masaharu Nakatsu
Masaharu NAKATSU



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Powder Blending with the Turbula® Shaker-Mixer

TURBULA® Shaker Mixer
Mix the impossible to perfection



- Extremely heavy powders with very light ones
- Minute quantities with huge volumes
- Fragile granules without crumbling
- Over 15,000 Turbula Shaker-Mixers sold worldwide since 1950
- Particles of different diameter - mixed to uniformity
- Toxic materials are protected
- Dust free
- Accepts containers of any size or shape
- No cross-contamination / No clean-up

Other applications for the TURBULA include:

- **Ball Milling:** Use grinding media inside mixing vessel to create an aggressive ball mill without corners or dead space
- **Sampling:** Any single or multiple number of samples can be taken, each truly representative of the bulk
- **Metal Finishing:** Intricate precision parts can be deburred and polished without damage

- [Turbula T2F](#)

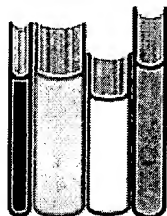
- [Turbula T10B](#)

- [Turbula T50A](#)

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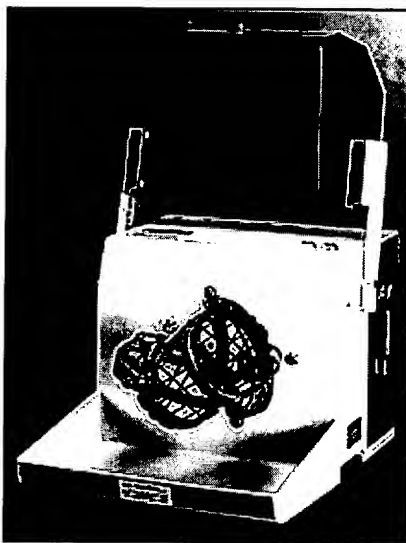


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TURBULA T2F



Our most popular model, the T2F handles containers from thimble-size capsules to 1/2 gallon (2 liter) jars.

Max. filling weight: 22 lbs.

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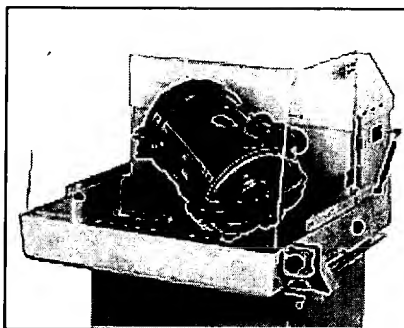
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TURBULA T10B



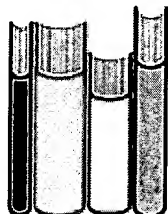
The T10B takes containers of random shape up to 17 liters, (approx. 260 mm x 380mm).

Max. filling weight: 66 lbs.

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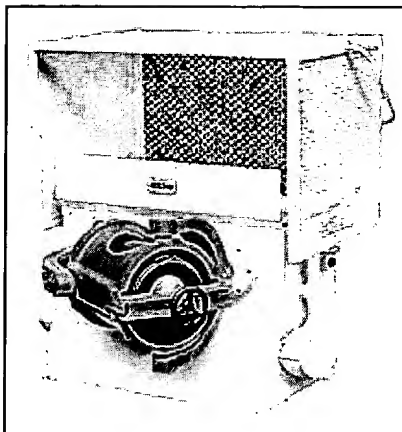
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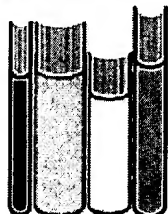
TURBULA T50A



The T50A takes a standard 55 liter container or smaller ones with special inserts.

Max. filling weight: 165 lbs.

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